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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ravikumar Mohandas

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EXAMINER

NOORISTANY, SULAIMAN

ART UNIT

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2446

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/749,702	Applicant(s) MOHANDAS, RAVIKUMAR	
	Examiner SULAIMAN NOORISTANY	Art Unit 2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/8/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

This Office Action is response to the application (10749702) filed on 08/25/2008

In view of the Brief filed on July 9, 2008, PROSECUTION IS HEREBY REOPENED. A new rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

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Claims 1-3, 5-33 are rejected under 112, second paragraph as being indefinite for failing to particularly point and distinctly claim the subject matter which applicant regards as the invention

In claim 1, “*tinyDHCP*” is indefinite and not clear what this is in reference to. However, the claims will be given a broad reasonable interpretation for the purposes of examination as best understood.

Claims 2-3, 5-33 are rejected for similar reasons as stated for claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6, 8-14, 17-18, 21-26, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hasty** U.S. App No. **US 20030179750** in view of **Mouko**. U.S. No. **US 6678732**.

Regarding claim 1, Hasty teaches wherein a client device comprising:

an ad-hoc client to manage connection of said client device to an ad-hoc wireless network (**providing ad-hoc routing networks with the ability to auto-**

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configure and discover Internet Protocol address to Media Access Control mappings, and gateway presence, in wireless peer-to-peer ad-hoc networks – [0014]);

With respect to claim 1, Hasty teaches well the invention set forth above except for the claimed “a DHCP client to send a DHCP discover message in response to a command from said ad-hoc client; and a tinyDHCP unit to sense said DHCP discover message” and allocate an IP address for the client device in response thereto.

Mouko teaches that it is well known to a DHCP client to send a DHCP discover message in response to a command from said ad-hoc client **(Fig. 1 -- a host "a", which is a client for servers, broadcasts a DHCPDISCOVER message – col. 3, line 59-61);** and

a tinyDHCP unit to sense said DHCP discover message **(receiving “here is same as sense” the DHCPDISCOVER message – col. 3, lines 66-67)**

allocate an IP address for the client device in response thereto **(to provide an IP address allocating method using the above-described DHCP server system – col. 2, lines 27-30)** in order to make the system more efficient and expand the system to a dynamic host configuration protocol (DHCP) server, which dynamically allocates IP addresses to client devices, to which host names are given, connected to a Transmission Control Protocol/Internet Protocol (TCP/IP) network, and an IP address allocating method using the same (col. 1, lines 6-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hasty's invention by utilizing the DHCP system for

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allocating an IP address to the client device in response to receiving a DHCP discover message where as dynamic allocation is the only method which provides dynamic re-use of IP addresses, where there are many hosts connected to one network, and plural DHCP servers; and timings when clients allocate IP addresses are overlapped. This causes a problem such that the broadcasted messages are increased before allocating the IP addresses, if the number of hosts and DHCP servers, each of which becomes a DHCP client connected to the TCP/IP network, becomes large, as taught by Mouko (col. 2, lines 5-20).

Regarding claim 2, Hasty and Mouko together taught the client device of claim 1, as described above. Hasty further teaches wherein, a packet driver to provide raw access to a wireless network medium for at least the tinyDHCP unit without using sockets functionality (**Fig. 2, unit 116 – Hardware/software & Driver – [0029]**).

Regarding claim 3, Hasty and Mouko together taught the client device of claim 1, as described above. Hasty further teaches wherein, said packet driver is a part of a packet capture library (**Fig. 2, unit 116 – Hardware/software & Driver – [0029]**).

Regarding claim 6, Hasty and Mouko together taught the client device as in claim 1 above. Hasty further teaches wherein tinyDHCP unit tests the availability of said IP address (**The DHCP request is passed to the ad-hoc routing layer in step 154 and a local IP address is calculated in step 156. -- [0054]**).

Regarding claim 8, Hasty and Mouko together taught the client device as in claim 1 above. Mouko further teaches wherein, said tinyDHCP unit sends a DHCP offer that includes the IP address (**Fig. 4, DHCPOFFER message – col. – col. 3, lines 10-12**).

Regarding claim 9, Hasty and Mouko together taught the client device as in claim 1 above. Mouko further teaches wherein, said tinyDHCP unit sends said DHCP offer to a predetermined port that is monitored by said DHCP client (**Fig. 4, DHCPOFFER message – col. – col. 3, lines 10-12**).

Regarding claim 10, Hasty and Mouko together taught the client device as in claim 1 above. Mouko further teaches wherein, said DHCP client senses said DHCP offer and sends a DHCP request based thereon, wherein said DHCP request includes said IP address (**receiving “here is same as sense” the DHCPDISCOVER message – col. 3, lines 66-67**).

Regarding claim 11, Hasty and Mouko together taught the client device as in claim 1 above. Hasty further teaches wherein, said DHCP client verifies availability of said IP address before sending said DHCP request (**DHCP allows a node to join an IP-based network without requiring a pre-configured IP address. A unique IP address is assigned to devices, and are released and renewed as nodes leave and re-join the network. [0051]**).

Regarding claim 12, Hasty and Mouko together taught the client device as in claim 1 above. Mouko further teaches wherein, said tinyDHCP unit senses said DHCP request and sends a DHCP acknowledge (ACK) message in response thereto (**FIG. 6 is a diagram illustrating status when acknowledging from the DHCP server, i.e., DHCPACK message – col. 3, lines 14-16**).

Regarding claim 13, Hasty and Mouko together taught the client device as in claim 1 above. Mouko further teaches wherein, said tinyDHCP unit is associated with a user interface to allow a user to specify DHCP parameters (**DHCP message includes a variable optional parameter field (options) to inform the message type – col. 5, lines 17-19**).

Claim 14 list all the same elements of **claim 1**, but in storage system rather than method form. Therefore, the supporting rationale of the rejection to **claim 1** applies equally as well to **claim 14**.

Regarding claim 17, Hasty and Mouko together taught the client device as in claim 14 above. Mouko further teaches wherein, said tinyDHCP unit sends a DHCP offer that includes the IP address (**Fig. 4, DHCP OFFER message – col. – col. 3, lines 10-12**).

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Regarding claim 18, Hasty and Mouko together taught the client device as in claim 14 above. Hasty further teaches wherein testing the availability of said IP address before sending said DHCP offer **(The DHCP request is passed to the ad-hoc routing layer in step 154 and a local IP address is calculated in step 156. -- [0054])**.

Regarding claim 21, Hasty and Mouko together taught the client device as in claim 1 above. Mouko further teaches wherein, receiving said DHCP offer within the client device; and sending, after receiving said DHCP offer, a DHCP request that includes said IP address from within the client device **(receiving “here is same as sense” the DHCPDISCOVER message – col. 3, lines 66-67)**.

Regarding claim 22, Hasty and Mouko together taught the client device as in claim 1 above. Hasty further teaches wherein, said DHCP client verifies availability of said IP address before sending said DHCP request **(DHCP allows a node to join an IP-based network without requiring a pre-configured IP address. A unique IP address is assigned to devices, and are released and renewed as nodes leave and re-join the network. [0051])**.

Regarding claim 23, Hasty and Mouko together taught the client device as in claim 1 above. Mouko further teaches wherein, said tinyDHCP unit senses said DHCP request and sends a DHCP acknowledge (ACK) message in response thereto **(FIG. 6 is a**

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diagram illustrating status when acknowledging from the DHCP server, i.e., DHCPACK message – col. 3, lines 14-16).

Regarding claim 24, Hasty and Mouko together taught the client device as in claim 1 above. Mouko further teaches wherein, receiving said DHCP ACK message within the client device (**FIG. 6 is a diagram illustrating status when acknowledging from the DHCP server, i.e., DHCPACK message – col. 3, lines 14-16).**

Regarding claim 25, Hasty and Mouko together taught the client device as in claim 1 above. Mouko further teaches wherein, allocating includes using dynamic DHCP allocation (**DHCP to dynamically allocate an IP address – Abstract).**

Claim 26 list all the same elements of **claim 1**, but in computer readable medium storage system rather than method form. Therefore, the supporting rationale of the rejection to **claim 1** applies equally as well to **claim 26**.

Regarding claim 29, Hasty and Mouko together taught the client device as in claim 26 above. Mouko further teaches wherein, allocating includes using dynamic DHCP allocation (**DHCP to dynamically allocate an IP address – Abstract).**

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Claims 5, 15-16, 19-20, 27-28, 30-33 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hasty** U.S. App No. **US 20030179750** in view of **Mouko**. U.S. No. **US 6678732** further in view of **Gu** U.S. App No. **US 2004/0260800**

Regarding claim 5, Hasty and Mouko together taught the client device of claim 1, as described above. However, Hasty and Mouko are silent in termd of “said DHCP client sends said DHCP discover message to a predetermined port that is monitored by said tinyDHCP unit”.

Gu teaches that it is well known to utilize “said DHCP client sends said DHCP discover message to a predetermined port that is monitored by said tinyDHCP unit” **(TCP/IP provides the ability to initiate a connection with a specified application running on a specific device provided both the network address of the device (IP address) and the application address (port) are known – Page. 7, [0122], a TCP socket using its IP address and an arbitrary port number. This address/port pair will be referenced by all incoming URL requests – [0398]).**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hasty’s invention by utilizing the DHCP system which create dynamic connectivity among distributed devices and services, and more particularly relates to providing a capability for devices to automatically self-configure to interoperate with other peer networking devices on a network, such as in a pervasive computing environment, as taught by Gu

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Regarding claim 15, Gu further teaches wherein, sending includes sending said DHCP discover message to a predetermined port **(TCP/IP provides the ability to initiate a connection with a specified application running on a specific device provided both the network address of the device (IP address) and the application address (port) are known – Page. 7, [0122], a TCP socket using its IP address and an arbitrary port number. This address/port pair will be referenced by all incoming URL requests – [0398]).**

Claim 16 list all the same elements of **claim 5**, but in storage system rather than method form. Therefore, the supporting rationale of the rejection to **claim 5** applies equally as well to **claim 16**.

Regarding claim 19, Gu further teaches wherein, sending a DHCP offer includes causing a packet driver to send said DHCP offer on a wireless network medium **(Fig. 25, unit 852 (LAN/WAN), a set-up and configuration process through which appropriate driver software is installed by a user or administrator onto the host for use in controlling the peripheral – Page. 1, [0005]).**

Regarding claim 20, Hasty further teaches wherein, said packet driver sends said DHCP offer on said wireless network medium without the use of sockets functionality **(Fig. 2, unit 116 – Hardware/software & Driver – [0029]).**

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Regarding claim 27, Gu, further teaches wherein, sending includes sending said DHCP discover message to a predetermined port **(TCP/IP provides the ability to initiate a connection with a specified application running on a specific device provided both the network address of the device (IP address) and the application address (port) are known – Page. 7, [0122], a TCP socket using its IP address and an arbitrary port number. This address/port pair will be referenced by all incoming URL requests – Page. 23, [0398])**.

Regarding claim 28, Gu, further teaches wherein, receiving includes monitoring said predetermined port and sensing said DHCP discover message on said predetermined port **(listener will listen on a TCP port for notifications sent – Page. 17, [0282], DHCP or client device listens for incoming connection requests on that socket and sets itself up to accept any incoming connections – Page. 23, [0399])**.

Claim 30 list all the same elements of **claim 1**, but in computer readable medium storage system rather than method form. Therefore, the supporting rationale of the rejection to **claim 1** applies equally as well to **claim 30**. However, Hasty and Mouko together are silent in terms of “NIC card”

Gu further teaches wherein NIC card **“(Fig. 30, unit 960 (NIC), a network interface card (NIC) -- [0559])”**.

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Regarding claim 31, Gu further teaches wherein, said wireless NIC is configured **(NIC)** in accordance with the IEEE 802.11 **(router)** wireless networking standard **(Fig. 25, unit 820 personal computer communicates via unit 854 router/modem over the unit 852 (WAN))**.

Regarding claim 32, Gu further teaches wherein, a packet driver to provide raw access to said wireless network medium for the tinyDHCP unit without using sockets functionality **(FIG. 25, unit 852 include a wide area network (WAN), FIG. 30, a client that accesses and uses the embedded computing device 900 over the computer network has an exemplary client software architecture 950, which includes software code modules for applications 952, simple discovery 954, XML 955, LDAP 956, TCP/IP stack 958 (WinSock) and a network interface card (NIC) 960 that provides a physical connection to the computer network – Page. 30, [0559])**.

Regarding claim 33, Hasty further teaches wherein, said packet driver is a part of a packet capture library **(Fig. 2, unit 116 – Hardware/software & Driver – [0029])**.

Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Hasty** U.S. App No. **US 20030179750** in view of **Mouko**. U.S. No. **US 6678732** further in view of **Gardiner** U.S. App. No. **US 2003/0225864**.

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Regarding claim 7, Hasty and Mouko together taught the method of claim 6, as described above. However, Hasty and Mouko do not explicitly teach *said tinyDHCP unit tests the availability of said IP address by sending an ICMP echo request*.

Gardiner teaches wherein, testing the availability of said IP address before sending said DHCP offer. **(A host could find an unused IP address on the subnet using the Internet Control Message Protocol (ICMP) ping command – Page. 1, [0009]).**

It would have been obvious to one ordinary skilled in the art at the time the invention was made to combine the teachings of Gardiner for testing the availability of IP address before sending DHCP offer. Motivation would be to complement the step of the known art that Hasty and Mouko attempt to resolve such enabling a host or client to obtain and reserve exclusive unique IP address with Gardner means that support obtaining a unique and reserved IP address.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sulaiman Nooristany whose telephone number is (571) 270-1929. The examiner can normally be reached on M-F from 9 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu, can be reached on (571) 272-6798. The fax phone number for the organization where

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this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sulaiman Nooristany 11/18/2008

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit 2446